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# PATENT SPECIFICATION

338,504

Application Date: July 19, 1929: No. 22,197/29.

Complete Left: April 22, 1930.

Complete Accepted: Nov. 19, 1930.

## PROVISIONAL SPECIFICATION.

### A New or Improved Apparatus for Playing a Game of Skill.



I, REGINALD CLARENCE FORD, British Subject, of 14, Coombe Street, Coventry, in the County of Warwick, do hereby declare the nature of this invention to be as follows:—

This invention relates to a new or improved game involving the use of coin-freed apparatus in which the return of the coin, or of a proportion of the previous takings, depends upon the skill or judgment of the user in bringing about the conditions precedent to the operation of the coin delivery mechanism.

The conditions which according to this invention it is necessary to satisfy in order to entitle the user to the return of his coin, or to a proportion of the takings from previously unsuccessful users, are first of all the insertion of a coin, secondly, the operation of a handle which, if the coin delivery box is empty, will cause the inserted coin to be deflected into it but which, if there are coins already in the machine as the result of previous unsuccessful attempts, may deflect the coin either into the box or into the till, and thirdly, the projection of a slide or indicator to one or other of a series defined positions by means of a device the operation of which is a measure of the skill or judgment of the user. The arrangement is such that if the slide or indicator is projected so as to come to rest of its own accord in one of the aforesaid positions it effects the delivery from the machine of the contents of the coin box. In the case of a win therefore the number of coins will vary and depend, in any given case, upon the number of coins inserted as the result of previously unsuccessful attempts less a predetermined percentage which is automatically deflected into the till.

The indicator or slide remains in the position to which it was last projected, whether the user was successful or otherwise, until another coin is inserted and the handle turned when the box, if open, is closed and in any case the slide or indicator is released and returns to position ready for the next attempt.

As already intimated the machine automatically retains a predetermined per-

centage of the takings, the balance being received by the delivery coin box for the benefit of the next user who by his or her skill or dexterity in manipulating the machine scores a win.

In applying the invention to a game of the kind in which a weighted slide is ejected up a vertical guideway against the action of gravity by a sharp blow on a freely pivoted lever, the apparatus is set for use, after the insertion of a coin, by rotating a coin barrel for which purpose an outside handle is provided. The coin barrel is mounted within a rotatable sleeve which, when the barrel has been turned on its axis through a given angle, becomes locked to the barrel by the coin. The completion of the rotary movement of the barrel therefore causes a part rotary movement of the sleeve. This movement of the sleeve is caused to rotate a cam, as by means of a chain passing over a sprocket wheel mounted on a one-way clutch on the cam spindle and having its free end attached to a tension spring. The movement of the cam operates a coin deflector which either allows the coin, as it leaves the coin chute from the barrel, to fall into a coin delivery box, or causes it to drop into the till according to the angular position of the cam which can only rotate in one direction. The handle of the coin barrel when released is returned by the spring aforesaid the return movement being preferably controlled by an air dashpot, the sprocket over-running the cam spindle. The machine is now set for the user to try his or her skill. If on striking the pivoted lever the slide fails to come to rest at one of a series of defined positions on the guideway it is caught at its highest position by the ratchet teeth of a fixed vertical rack and remains in that position until the next attempt. If, however, the blow on the pivoted lever has been sufficiently well judged to raise the slide exactly to one of the defined positions it is caught by a tooth of a movable second rack which corresponds in position with a tooth cut out of the fixed rack.

The movable rack is normally held in a raised position by a counterweight and

Price 1/-

when the slide lodges on it, the effect is to draw down the movable rack, the movement of which operates to release a catch which normally retains the pivoted bottom of the coin box in the closed position. The release of this catch therefore allows the box to open and discharge any coins it may contain.

Whether a win is scored or not the slide remains on the endwise movable or fixed rack as the case may be with the coin box open, in the case of a win, until the insertion of another coin into the machine and the turning of the coin barrel and sleeve. The sleeve is arranged, before releasing the coin into the chute, to operate a rod which in the case of a previous win closes the bottom of the coin box. The sleeve is also connected with a trigger device which releases either of the racks from engagement by the slide allowing the latter to fall by gravity to the bottom of the guideway in position for ejection by the pivoted lever at the next attempt. At the same time the sleeve operates the cam in the manner hereinbefore described and it will depend upon the position of the cam, or rather on the position into which the cam moves the deflector, whether the coin now inserted falls into the coin box or into the till. Where the machine is constructed to retain 25% of the takings the cam will have four angular positions in three of which the coin deflector directs

the coins from the chute into the coin box whilst in the fourth position the coin deflector is held by the cam in a position in which it deflects the coin into the till.

If the cam happens to be in the latter position with the coin box empty and the user scores a win he would not get his coin back. To provide for this contingency the cam may have a peg so arranged as to lie in the path of a projection on the coin box closing rod which as it rises to close the box rotates the cam forward to the next position thus leaving the deflector in a position to direct the coin into the box instead of into the till.

The movement of the handle operating the coin barrel is limited by suitably arranged stops. In the normal position the handle may coincide with the coin slot in which case it would itself be correspondingly slotted.

The whole mechanism is enclosed in a dust proof casing the front of which forms the guideway for the slide. The pivoted lever protrudes through a slot in the front of the base of the machine whilst the coins are delivered into an open receiver at one side of the machine.

Dated this 18th day of July, 1929.

T. FLETCHER WILSON, LL.B.,

Fellow of the Chartered Institute of Patent Agents,

High Street Chambers, Coventry,  
Agent for the Applicant.

## COMPLETE SPECIFICATION.

### — New or Improved Apparatus for Playing a Game of Skill.

I, REGINALD CLARENCE FORD, British Subject, of 14, Coombe Street, Coventry, in the County of Warwick, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention is an adaptation of a well known game which, as originally played, was perhaps more a trial of strength than one of skill and consisted in projecting a freely mounted slide up a vertical slideway, the player who reached the highest point on the slideway being regarded as the winner.

As played according to the present invention the game involves the use of apparatus which is of the coin-controlled type and characterized in that the raising of the slide so that it comes to rest in any one of a number of defined winning positions on the slideway, releases the

contents, or a proportion of the contents, of a coin box or pool.

The conditions which, according to this invention, it is necessary to satisfy in order to entitle the player to the return of his coin, or to a proportion of the takings from previously unsuccessful players, are first of all the insertion of a coin, secondly, the operation of a handle, and thirdly, the projection of the slide or indicator so that it comes to rest in one or other of a series of defined positions on the slideway by means of a device the operation of which is a measure of the skill or judgment of the player. The arrangement is such that if the slide or indicator is projected so as to come to rest in one of the aforesaid positions it effects the delivery from the machine of the whole or part of the contents of an enclosed coin box or pool. In the case of a win, therefore, the number of coins returned will vary and depend, to some

extent, upon the number of previously unsuccessful attempts; less a predetermined percentage which is automatically retained by the apparatus.

- 5 The indicator or slide remains in the position to which it last came to rest, whether the player was successful or otherwise, until another coin is inserted and the handle turned when the coin-box, if  
10 open, is closed and, in any case, the slide or indicator is released and returns to position ready for the next attempt.

- As already intimated the machine automatically retains a predetermined percentage of the takings, the balance being  
15 received by the delivery coin-box wholly or partly for the benefit of the next player who by his or her skill or dexterity in manipulating the machine scores a win.

- 20 In order that the invention may be clearly understood and readily carried into practical effect, reference is made in further describing the same to the accompanying drawings, wherein,

- 25 Figure 1 is a front view of the improved machine or apparatus.

Figure 2 is a rear view of the same with the back plate removed to show the mechanism.

- 30 Figure 3 is a side view.

Figure 4 shows the mechanism on a larger scale with the deflector in position to allow the coin to drop into the coin-box.

- 35 Figure 5 shows the indicator slide supported in one of the winning positions by a tooth of the movable rack, Figure 5a being an enlarged detail view of the pawl on the slide.

- 40 Figures 6 and 7 are longitudinal and cross-sectional views of the coin barrel and sleeve.

- Figure 8 is an enlarged detail view of the coin-box and releasing mechanism as  
45 seen from the left hand of Figure 4.

- Figures 9 and 10 are vertical sectional views of the coin-box with the tubular sleeve in the closed and open position respectively.

- 50 Figures 11 and 12 are detail views of the indicator slide releasing mechanism in the normal and "release" positions respectively.

- Figures 13 and 14 are sectional plan views of Figures 11 and 12 respectively.

- Throughout the drawings like parts are designated by similar reference characters.

- Referring to the construction shown in the drawings, the improved apparatus  
60 comprises a vertical casing or cabinet 2 surmounting an extended hollow base portion 3. The casing entirely encloses the mechanism to be hereinafter described and may be made of metal or wood with  
65 a glazed front panel 2<sup>a</sup> through which an

indicator plate 4 marked off into a vertical series of positions can be seen. The base portion 3 contains a pivoted lever 5 one end of which protrudes through a slot in the front of the base whilst the other end occupies a position below the cabinet as seen in dotted lines in Figure 3. The front face of the indicator plate carries a pair of guide bars 6 between which a weighted indicator slide 7 is mounted and free to run on rollers 7<sup>a</sup>. When in the "play" position this indicator slide rests loosely upon the inner end of the lever 5. The game consists in raising the slide so as to come to rest in one or other of the winning positions marked on the indicator plate 4 by a sharp blow on the lever. If the attempt is successful the player will receive the whole or a part of the contents of an enclosed coin-box which will be delivered to him down a delivery chute 8 at the side of the machine. Before any such attempt can be made however, it is necessary to set the machine for use by inserting a coin into the machine at 9 and pulling down the handle 10.

The said handle is fixed to the spindle of a rotatable coin barrel 11 which, together with the mechanism hereinafter described is arranged at the back of the indicator plate 4 within the casing 2. The coin barrel 11, which is rotatably mounted within a rotatable sleeve 12 immediately at the back of the coin slot 9, has a longitudinal slot 11<sup>a</sup>, which, when the handle 10 is in the vertical or "play" position, shown in Figure 1, registers with the coin slot 9. The slot 11<sup>a</sup>, as shown in Figure 6, is of tapering length and when a coin falls into it from the coin slot 9, the said coin protrudes through the bottom of the said slot 11<sup>a</sup> and through a corresponding slot 12<sup>a</sup> in the sleeve 12, which thereby becomes locked to the coin barrel. When, therefore, the handle 10 is operated to rotate the coin barrel the sleeve is turned with it. This movement of the sleeve is caused to rotate a cam 13, as by means of an arm 12<sup>b</sup> pivoted to the sleeve and connected to one end of a chain 14 passing under a sprocket wheel 15 mounted on a one-way clutch on the cam spindle, the other end of said chain being attached to a tension spring 16. In order to release the coin so that it is free to fall back through the coin barrel and sleeve into the coin chute 17, the barrel carries a radially projecting pin 11<sup>b</sup> which, as the barrel approaches the end of its angular movement, engages a pin 12<sup>c</sup> on the arm 12<sup>b</sup> which causes the sleeve 12 to move forward a little in advance of the barrel and thus releases the grip on the coin. The coin barrel carries a ratchet toothed segment

11° which is engaged by a spring controlled pawl 18 so that once the handle 10 is moved to turn the coin barrel it cannot be moved back again until it has completed its full movement by which time the segment 11° has passed the pawl which then trips the segment on the return movement.

The handle 10 of the coin barrel, when released is returned together with the barrel and sleeve by the spring 16 aforesaid, the return movement being preferably controlled by an air dash-pot 19, the sprocket 15 meanwhile overrunning the cam spindle. The plunger of the dash-pot is connected with the arm 12<sup>b</sup> by means of a rod 20 which has an intumed extension 20<sup>a</sup> adapted when the coin barrel approaches the end of its operative movement to force the arm 12<sup>b</sup> against the protruding part of the coin to push it back into the slot in the coin barrel in the event of its failing to fall freely into the chute. The handle 10 works between fixed stops 10<sup>a</sup>, 10<sup>b</sup> on the front of the machine and the return movement of the arm is likewise limited by a stop 11<sup>a</sup>.

A coin having been inserted at 9 and the handle 10 turned and released, the machine is set for the player to try his or her skill. If, on striking the pivoted lever 5 the indicator slide 7, which carries a pivoted pawl 7<sup>b</sup> shown more clearly in Figure 5a, fails to come to rest at one of the series of marked positions on the indicator plate 4, it is caught at its highest position by the pawl 7<sup>b</sup> engaging one of the teeth of a fixed vertical rack 21 mounted alongside of and parallel with one of the guide bars 6, and remains in that position until the next attempt. Nothing else takes place within the machine except that the cam 13 has taken up a different angular position. If, however, the blow on the pivoted lever 5 has been sufficiently well judged to raise the indicator slide so that it will come to rest at one of the defined winning positions on the indicator plate, it is caught by its pawl 7<sup>b</sup> engaging one of the teeth 22<sup>a</sup> of a second rack 22 carried by and movable longitudinally upon the fixed rack. There is one tooth on this rack 22 for each winning position and these teeth correspond with gaps in the fixed rack. Normally, the longitudinally movable rack is held in a raised position by means of a weighted lever 23 at its bottom end and when the indicator slide, which is also weighted, lodges on it, the effect is to draw down the movable rack. The true winning positions indicated on the slide-way are therefore placed lower than the normal positions occupied by the teeth of

the movable rack to the extent of the vertical downward displacement of the latter when the slide lodges on it.

The destination within the machine of the coin, as it leaves the coin chute 17, depends upon the position for the time being of a coin deflector 24 which either allows the coin to drop into a coin box 25 or, in the position shown in Figure 2, deflects the coin so that it falls into a till (not shown) in the base of the machine. The position of the coin deflector, which is pivoted at 24<sup>a</sup>, is controlled by the cam 13 and by a spring 24<sup>b</sup>. Where the machine is constructed to retain 25% of the takings the cam will have four angular positions, i.e. it will be necessary to use the machine four times for each complete revolution of the cam. In three of these positions the coin deflector is held by a spring 24<sup>b</sup> in the position shown in Figure 4 in which it allows the coins to fall from the chute 17 into the coin-box 25, whilst in the fourth position shown in Figure 2 the coin deflector is moved by the cam into the position in which it deflects the coin as it falls from the chute 17 into a till in the base of the machine.

The delivery of the coins from the coin-box 25 to the delivery chute 8 is controlled by means of a tubular slide 25<sup>a</sup> which has a vertical movement in an extension 25<sup>b</sup> of the box. On the side facing the coin-box the tubular slide is formed with a port 25<sup>a</sup> and on the opposite side facing the delivery chute 8 with a second port 25<sup>a</sup> at a lower level, the two ports being connected together at their lower edges by means of an inclined partition 25<sup>c</sup>. When the tubular slide 25<sup>a</sup> is in the normal position shown in Figure 9 it is open to the coin-box by way of the port 25<sup>a</sup> but closed to the coin delivery chute, the port 25<sup>a</sup> being covered by the adjacent wall of the machine. The bottom of the coin-box 25, as will be seen, inclines downwardly toward the tubular slide 25<sup>a</sup> so that as the coins fall into the box they roll or slide down into the said tubular slide. If at any time the slide is full of coins any further coins remain in the box until such time as a win takes place and the coins in the slide are delivered to the successful player after which on the slide returning to the closed position shown in Figure 9 the excess coins in the box roll or slide into the tubular slide 25<sup>a</sup> for the benefit of the next successful player. It will be seen therefore that whether the player takes the whole or a proportion of the coins in the machine will depend upon whether the tubular slide 25<sup>a</sup> is only partly filled or there is an excess of coins lying in the box 25.

Normally, the tubular slide of the coin-box is locked in the position shown in Figure 9 by means of a pivoted latch 26 the catch piece 26<sup>a</sup> of which protrudes 5 through a slot in the coin-box extension 25<sup>b</sup> into engagement with a corresponding slot in the tubular slide. The latch is held in its operative position by means of a spring 26<sup>b</sup>. The latch 26 is adapted 10 to be disengaged from the tubular slide of the coin-box, in the case of a win, by means of the pivoted lever 23 one arm of which supports the movable rack 22 in its normal raised position by means of 15 a counterweight 23<sup>a</sup> on the other arm. When the movable rack is pulled down by the indicator slide the lever 23 is depressed and by means of a projection 23<sup>b</sup> moves the latch 26 out of engagement with the 20 tubular slide of the coin-box which slide is thereupon sharply raised to the position shown in Figure 10 by means of a tension spring 27 in which position it remains until the insertion of another coin into 25 the machine and the turning of the coin barrel and sleeve.

To guard against the possibility of any coins in the tubular slide being jerked out of the port 25<sup>a</sup> as the result of the sudden upward pull of the spring 27, 30 the said port may be covered by a plate 24<sup>c</sup> carried off the coin deflector 24.

The rotation of the coin barrel and sleeve in addition to affecting the position 35 of the cam 13 in relation to the coin deflector 24 also operates to release the indicator slide 7 from whichever rack it is on and, in the case of a previous win, at the same time operates to close the 40 tubular slide of the coin-box and to restore the movable rack to its normal raised position.

For the purpose of releasing the indicator slide from either of the racks so 45 that it can fall back to the play position on the lever 5 in readiness for the next attempt, the longitudinally fixed rack 21, which carries the longitudinally movable rack 22 is attached edgewise to a rotatable bar 28 so that the two racks can 50 turn together about a longitudinal axis into and out of position for engagement by the pawl 7<sup>b</sup> on the indicator slide. The bar is turned on its axis to release 55 the indicator slide by means of a pair of toggle links 29, one of which is pivoted to the back of the indicator plate at 29<sup>a</sup> whilst the other is slotted to engage a pin 28<sup>a</sup> projecting radially from the bar 60 through an opening 4<sup>a</sup> in said plate. The actuation of the toggles in both directions is effected by means of a catch plate 14<sup>a</sup> fixed to the chain, the arrangement being such that when the coin barrel and sleeve 65 are rotated the catch plate engages the

projecting end of the centre pin 29<sup>b</sup> of the toggle links and pulls the latter down causing the bar 28 to turn the racks 21, 22 away from the indicator slide 7 so that the pawl 7<sup>a</sup> of the latter is disengaged 70 from one or the other of the racks. The downward or releasing movement of the toggles is assisted by a blade spring 29<sup>c</sup> bearing against a stop 29<sup>d</sup> on one of the links so that the links are actually 75 depressed further than the extent of the downward movement of the catch plate.

In order to restore the racks to their operative positions ready to receive the indicator slide at the next attempt, the 80 bottom end of the catch plate 14<sup>a</sup> is adapted to engage the centre pin 29<sup>b</sup> of the toggle links when, the handle 10 being released, the spring 16 returns the coin barrel and sleeve to the "play" position. 85 The return movement of the chain under the influence of the spring 16 causes the catch plate 14<sup>a</sup> to raise the toggle links which in straightening out, turn the bar 28 in an anti-clockwise direction to 90 bring the racks into their normal position.

Where, in the case of a previous win, the tubular slide 25<sup>a</sup> is in the raised or open position with respect to the delivery chute 8, means are provided for 95 closing the same prior to the next attempt. For this purpose there is attached to the chain 14 a rod 30 which slides in guides on the machine frame and is provided with two projections 31, 32. When, after 100 the insertion of a coin, the handle 10 is turned to rotate the coin barrel and sleeve the rod 30, in being pulled down by the chain, closes the tubular slide of the coin box against the action of the spring 27, 105 by means of the projection 31 which engages a lug 25<sup>c</sup> on said slide and forces it down until the latch 26 engages it and holds it in the closed position.

In order to ensure the return of the 110 movable rack after a win, a vertical rod 33 sliding in a bracket on the machine frame is arranged to bear upon the counterweighted end of the lever 23 at the time of closing the tubular slide of the coin box. This rod 33 is attached at 115 its upper end to a horizontal lever 34 one end of which is pivoted to the frame or casing of the machine whilst its other end is supported by a spring 35. When the 120 rod 30 is pulled down by the chain the second projection thereon 32 engages the horizontal lever 34 and depresses it thereby causing the rod 33 to bear upon the lever 23 to raise the movable rack 22. 125

As already pointed out, the true winning positions indicated on the slide-way are slightly lower than the normal positions of the teeth of the movable rack to the extent of the vertical downward 130

movement of the latter when the slide lodges on it.

5 Advantage is taken of this fact to provide that every time the cam is in position to deflect the inserted coin into the till, the player cannot score a win.

For this purpose the cam is provided with a peg 13<sup>a</sup> adapted, when the cam is in position to cause the deflector to 10 direct the coin into the till, to co-operate with the horizontal lever 34, rod 33 and lever 23 to lock the movable rack in the raised position so that, although the slide lodges on a tooth of the movable rack the 15 latter is prevented from being pulled down, consequently the indicator slide under such circumstances can never show a win. This will happen at every fourth attempt i.e. when the cam is in position 20 to deflect the coin into the till.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I 25 claim is:—

1. In a game of the kind herein referred to, apparatus of the coin-controlled type characterized in that the raising of the slide so that it comes to rest 30 in any one of a number of defined winning positions on the slideway releases the contents, or a proportion of the contents, of a coin box or pool.

2. Apparatus according to claim 1 35 characterized in that the insertion of a coin and the operation of a handle allows the slide to return to the play position and at the same time determines the destination of the coin within the 40 machine.

3. Apparatus according to claim 2 in which the destination of the coin after its insertion in the machine is determined by a cam the angular position of which 45 is changed at each operation of the handle, said cam according to its angular position at any instant causing a deflector to direct the coin either into a till or into the coin box or pool.

4. Apparatus according to claim 1 50 characterized in that the slide when projected up the slideway is caught at its highest point by one or the other of two racks one of which is fixed whilst the other is capable of a limited vertical 55 downward movement when the slide is caught by it.

5. Apparatus according to claims 2 and 4 in which there are associated with the racks means whereby on the insertion of 60 a coin and the operation of the handle the slide is allowed to return to the play position.

6. Apparatus according to Claim 4 in which when the slide has been projected 65 so as to come to rest in a winning position, the rack which holds it is thereby caused to effect the opening of the coin-box or pool.

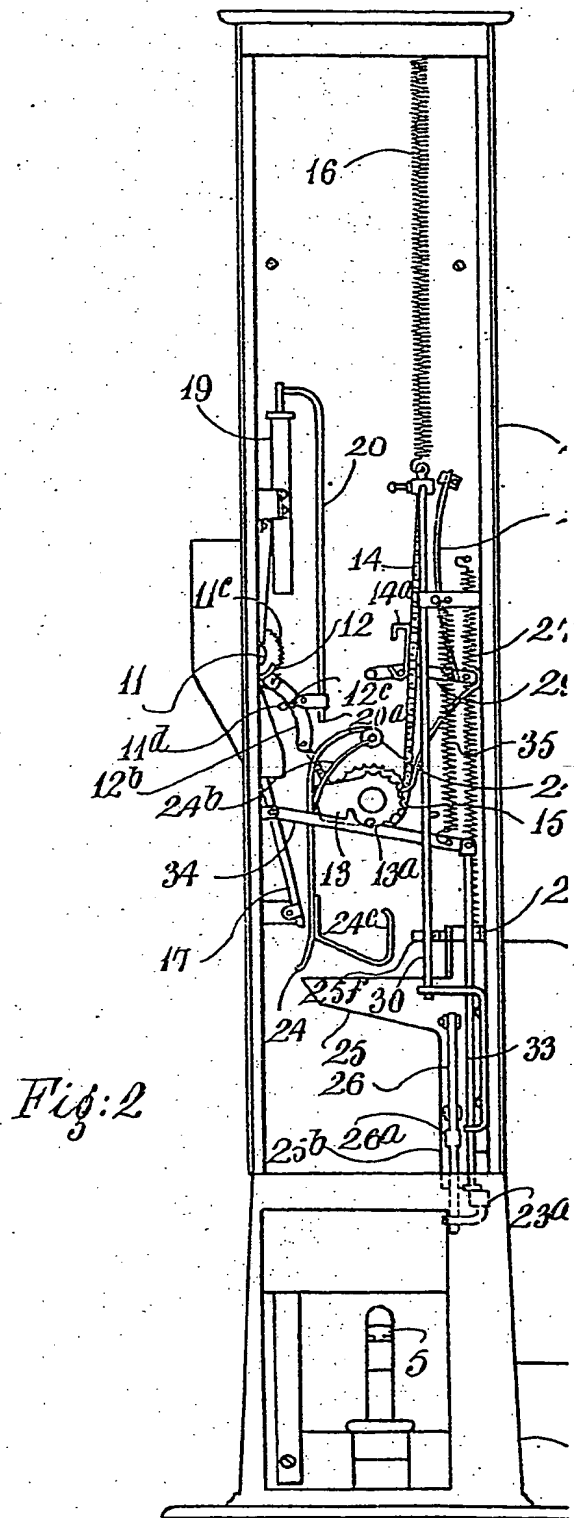
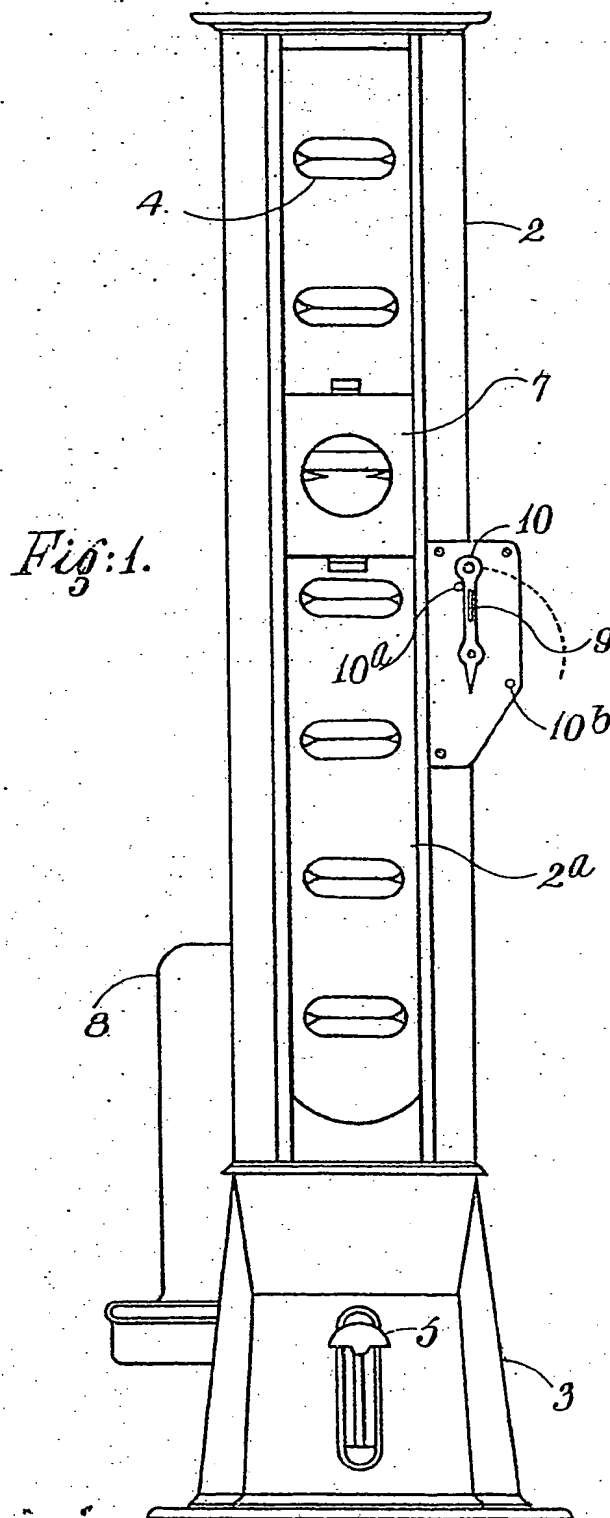
7. Apparatus for playing a game of 70 the kind herein referred to, constructed and adapted to operate substantially in the manner herein described and as shown in the accompanying drawings.

Dated this 17th day of April, 1930.

T. FLETCHER WILSON, LL.B.,  
Fellow of the Chartered Institute of  
Patent Agents,  
High Street Chambers, Coventry,  
Agent for the Applicant.



*[This Drawing is a reproduction of the Original on a reduced scale.]*



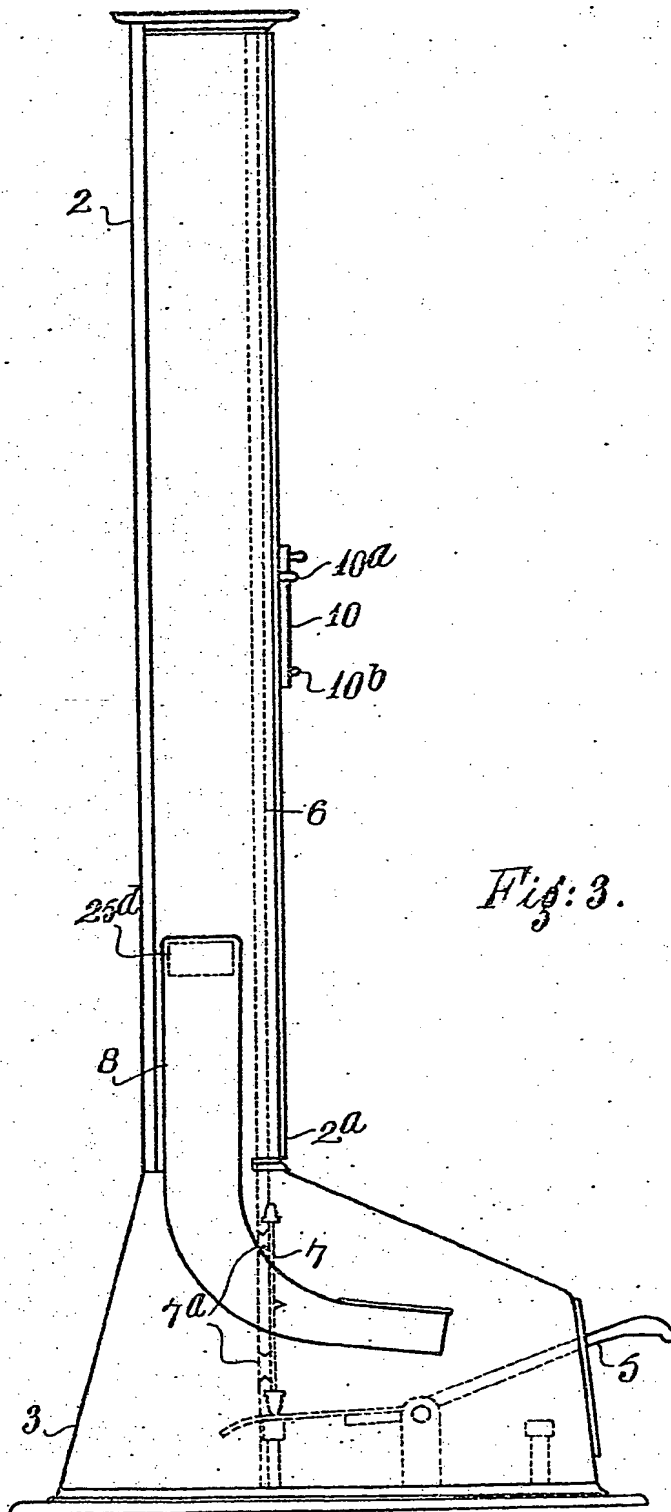
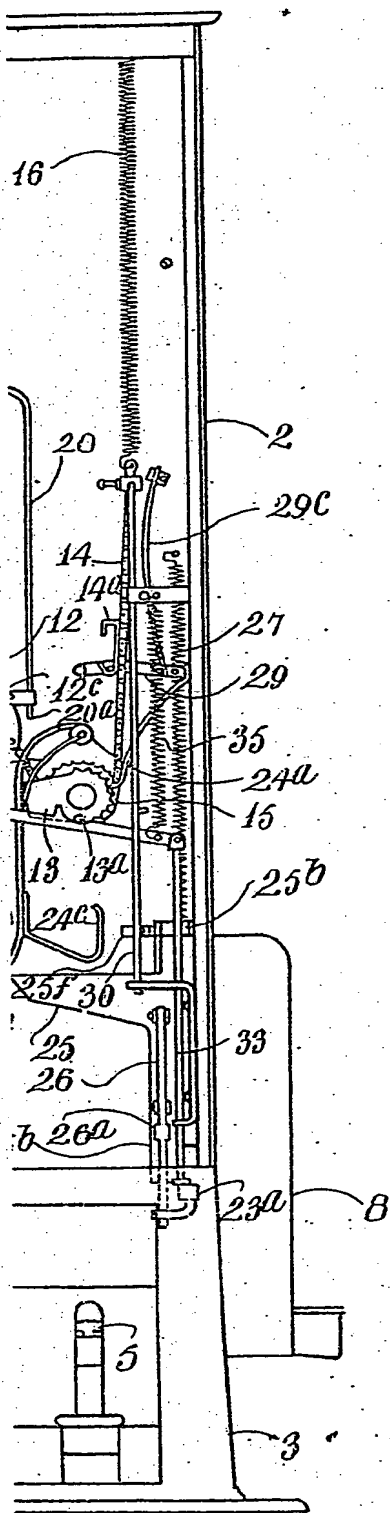
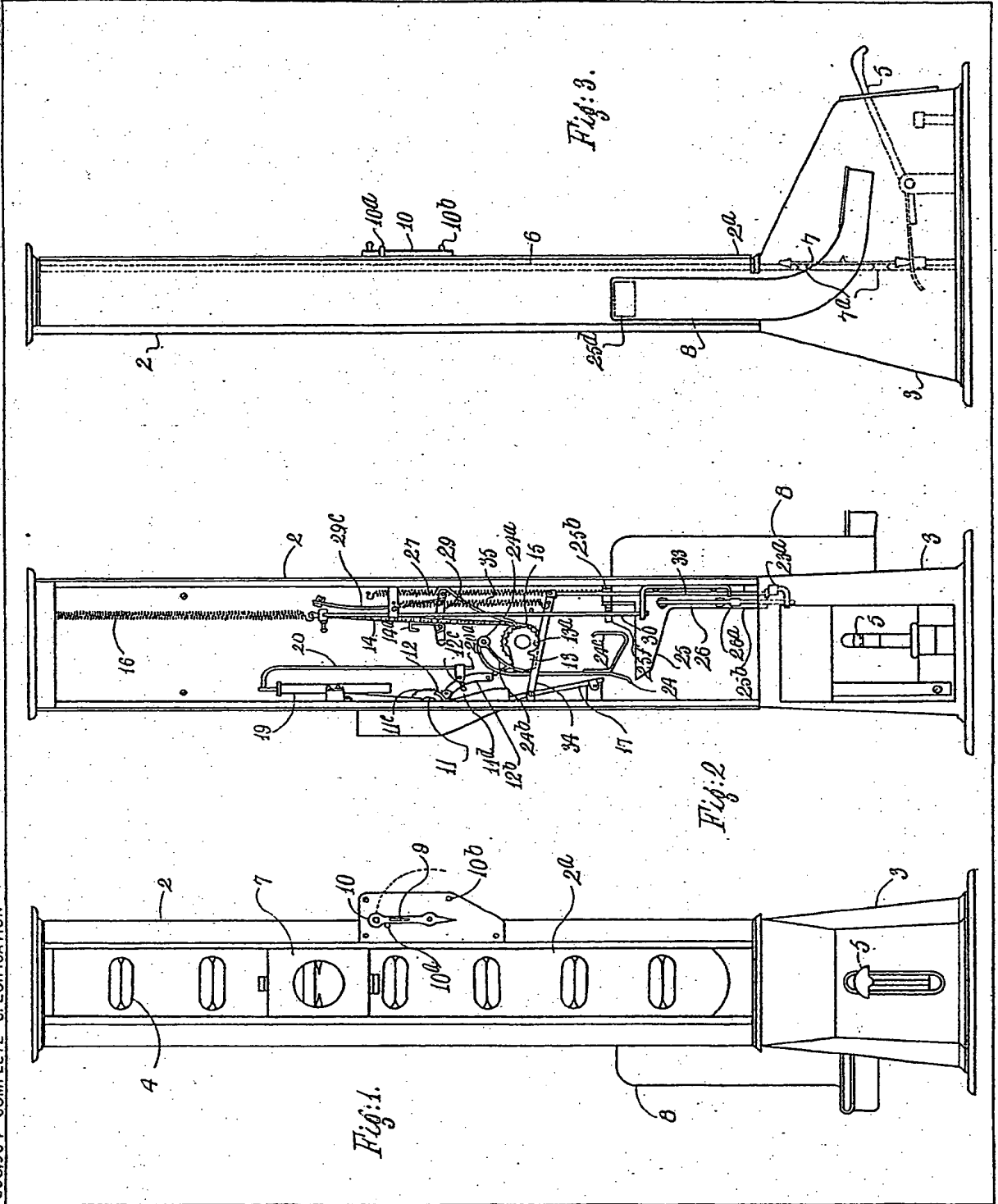
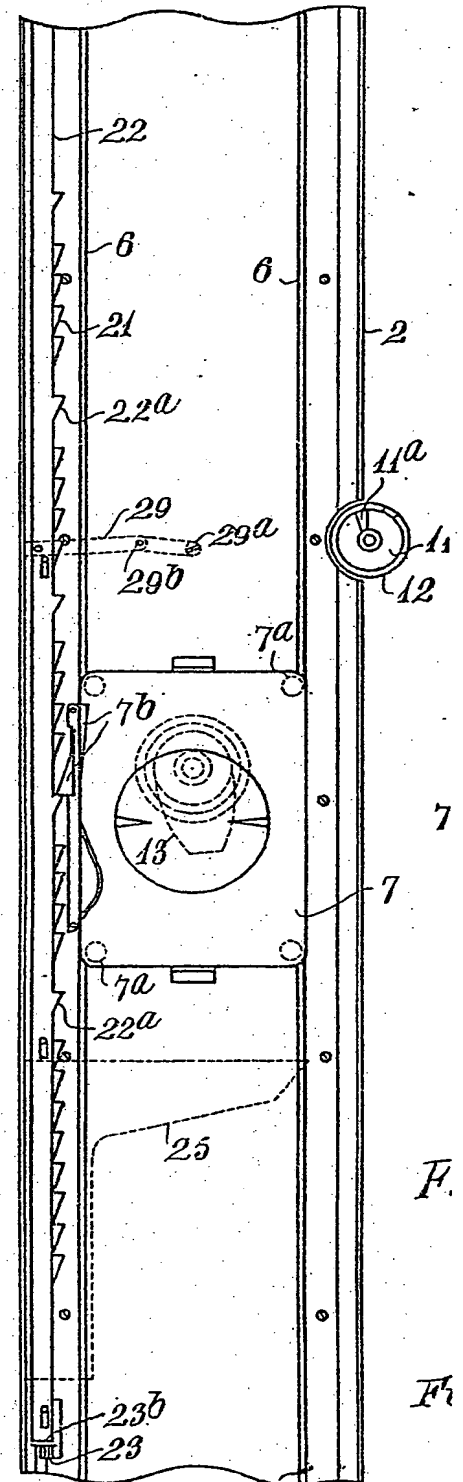
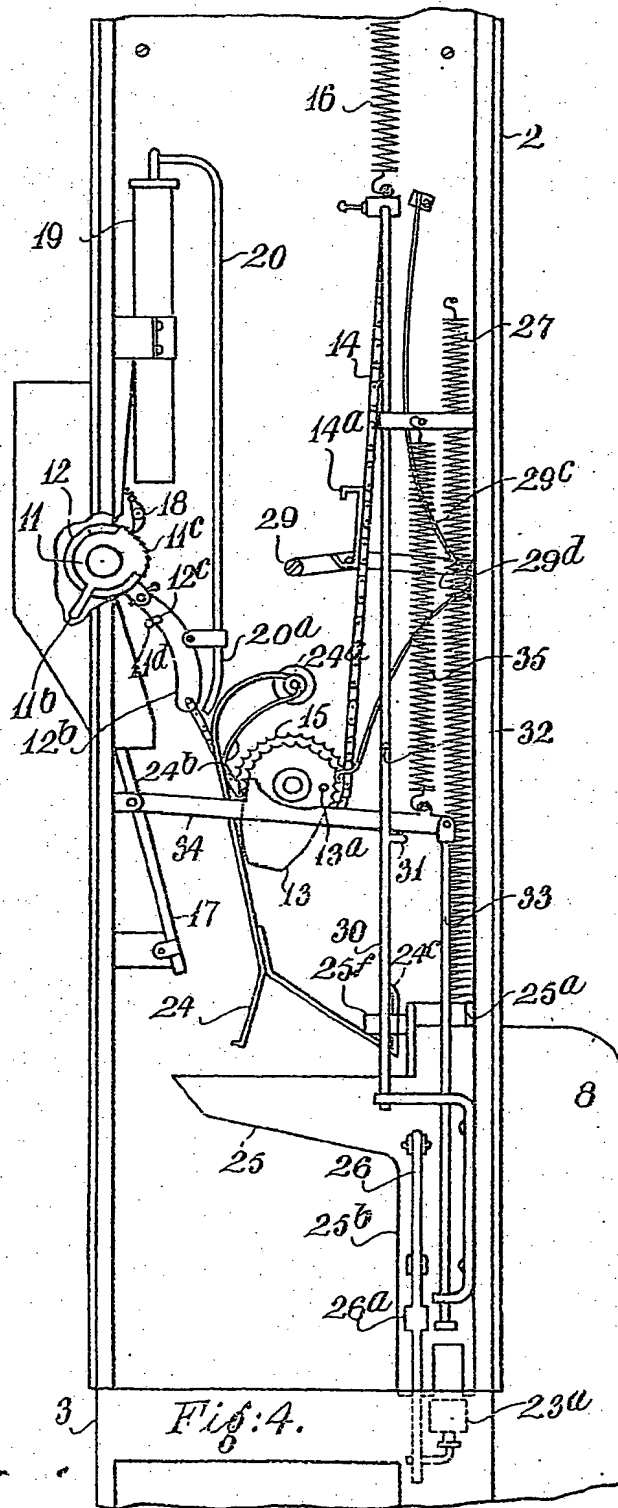


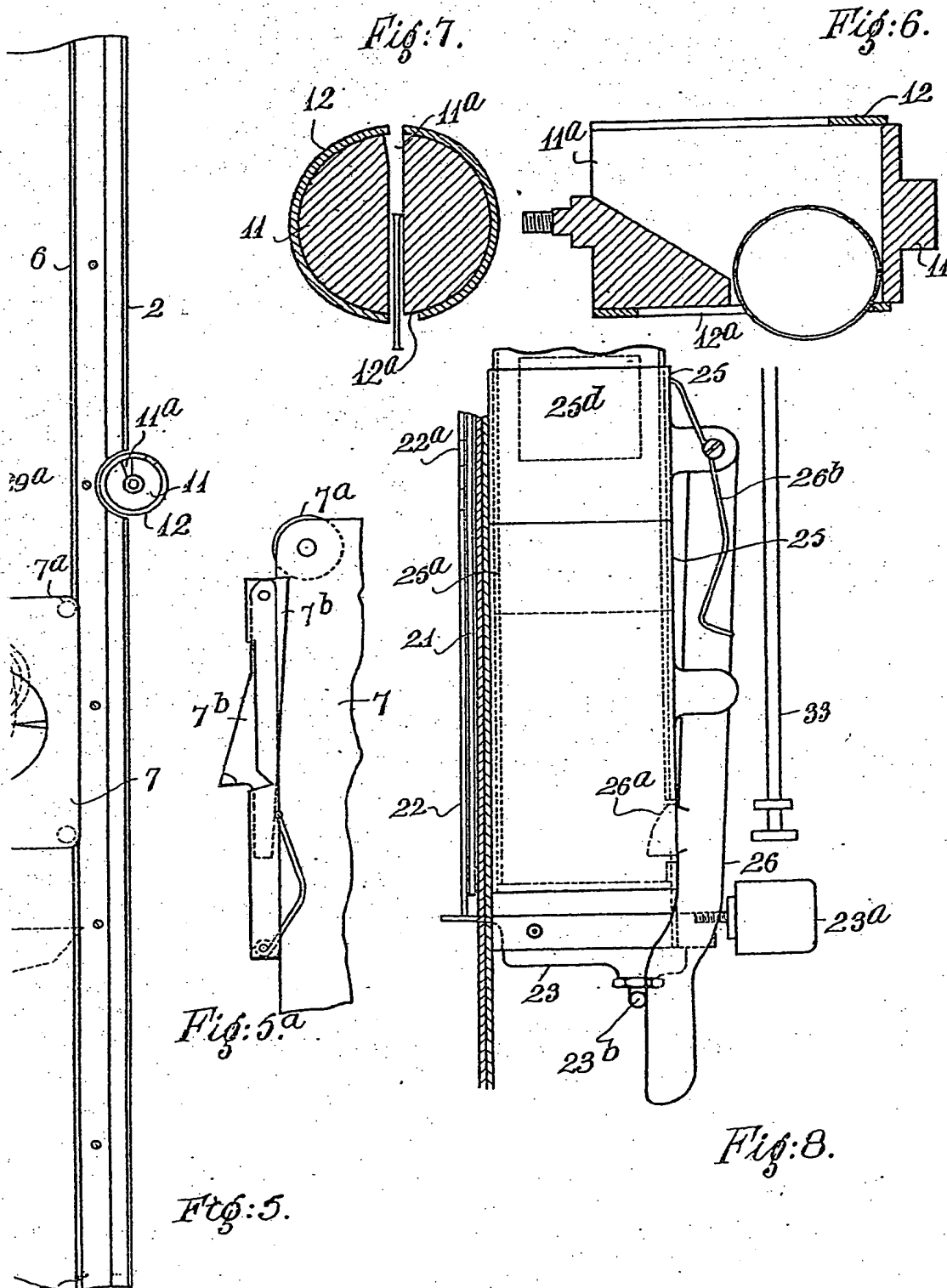
Fig. 3.



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Fig. 6.

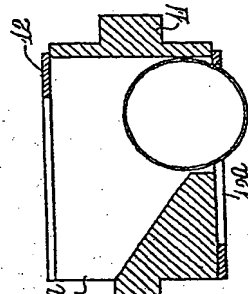


Fig. 7.

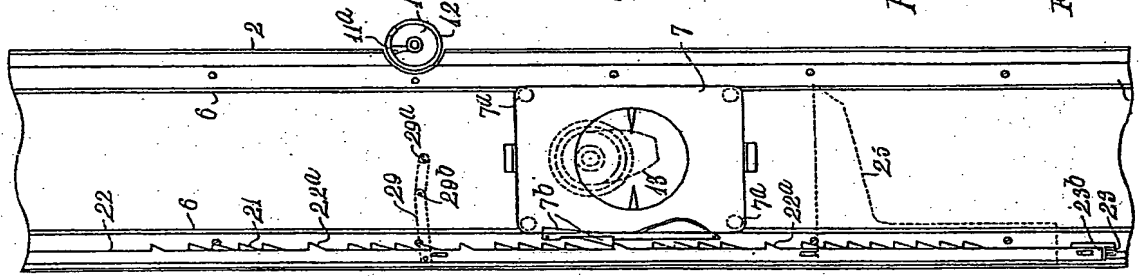
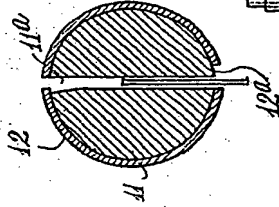


Fig. 5.

Fig. 5.

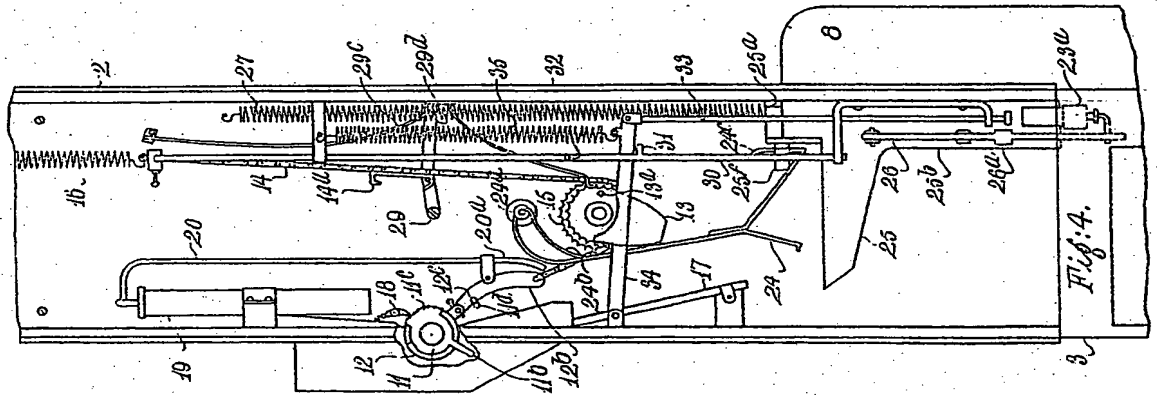


Fig. 4.

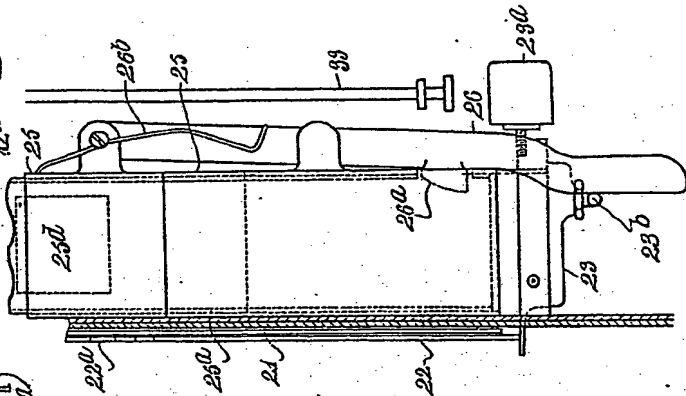


Fig. 3.

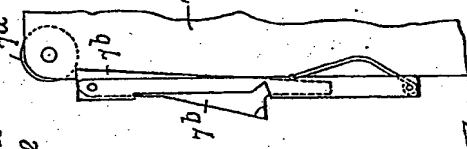
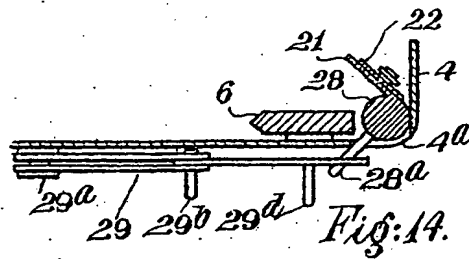
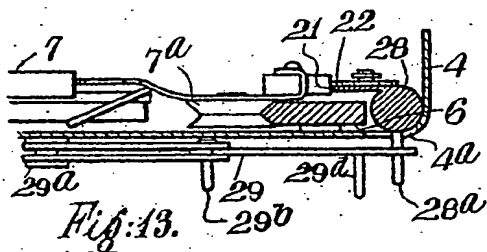
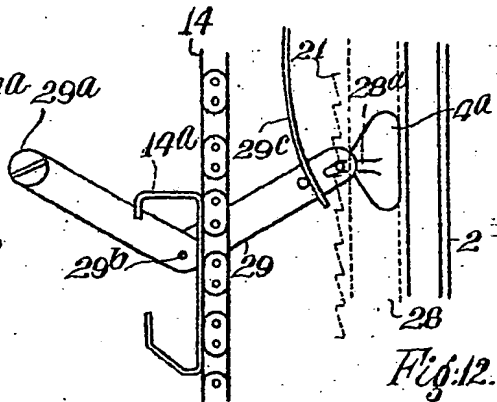
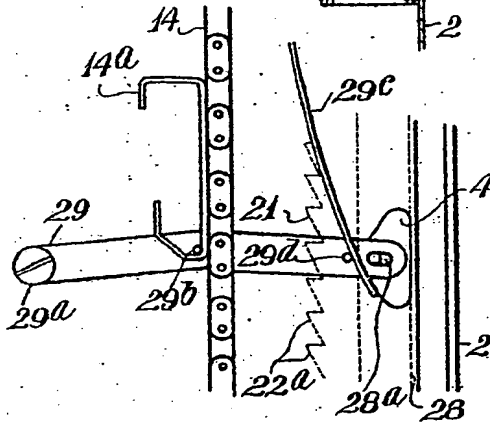
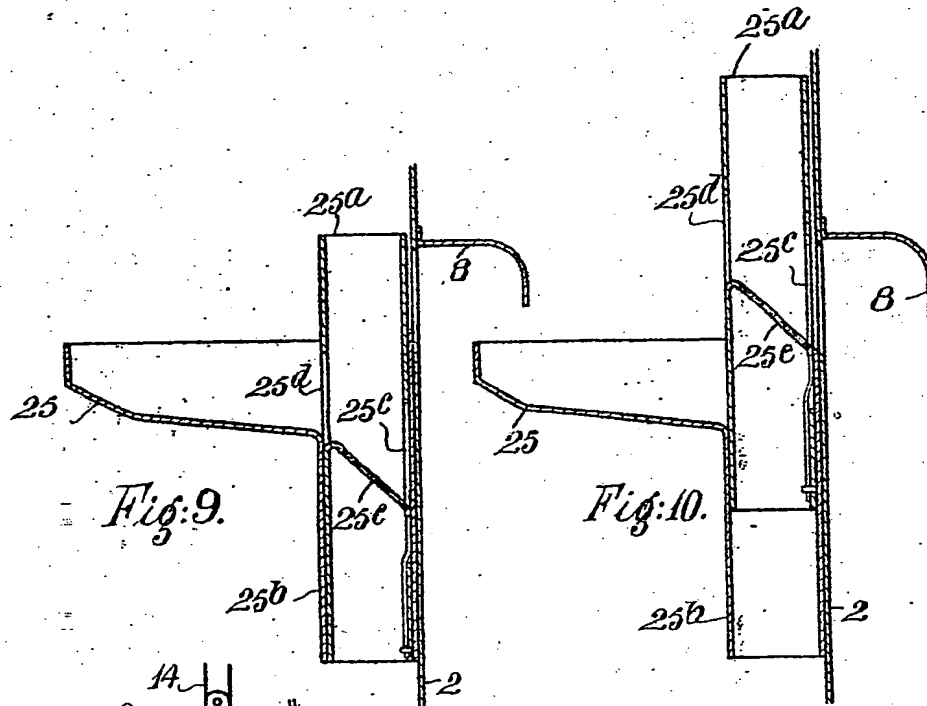


Fig. 2.

[This Drawing is a reproduction of the Original on a reduced scale.]



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